

REMARKS

The Office Action dated May 3, 2004, has been received and carefully noted. The amendments made herein and the following remarks are submitted as a full and complete response thereto.

Claims 2, 3, 6 and 11 have been amended for grammatical and clarity purposes as well as to more clearly recite that which is disclosed and illustrated in the originally filed application. The title of the invention, the specification, the abstract have also been amended. Applicants submit that the amendments made herein are fully supported in the specification and the drawings as originally filed, and therefore no new matter has been added. Accordingly, claims 1-11 are pending in the present application and are respectfully submitted for consideration.

Formal Matters Concerning the Specification

The title of the invention was not descriptive. Applicants appreciate Examiner's suggestion of a new title, and respectfully submit a more descriptive new title of:

-- SECURE ENCRYPTION PROCESSOR WITH TAMPER PROTECTION --.

The drawings of the present application were objected to. Applicants respectfully traverse the drawing objection and request reconsideration of the drawings as originally filed on December 12, 2000.

In making the objection to the drawings, the Examiner appeared to have considered an entirely different set of drawings filed on July 31, 2000. Applicants are unclear as the drawings filed on July 31, 2000 in which the Examiner is referring to since the remarks with respect to the objections do not coincide with that which is

disclosed in the present application. For example, the Examiner objected to Figure 1 because the Examiner took the position that Figure 1 should be labeled as --Prior Art--. Applicants submit that Figure 1 of the drawings shows an exemplary embodiment of an encryption control apparatus of the present invention as described on at least pages 8-9 of the specification. Therefore, it is submitted that Figure 1 of the drawings is NOT prior art.

Furthermore, the Examiner objected to Figures 2, 7 and 8 for reasons that are not entirely clear to the Applicants. For instance, Figure 2 does not contain the "Element 211," Figure 7 does not contain "Element 4060," and the specification of the present application contains 28 pages and does not have "page 35 lines 17-19." Furthermore, Figures 7 and 8 are in compliance with US patent practice and are within the proper margins as set forth in the rules. Accordingly, Applicants respectfully request withdrawal of the objections to the drawings.

The Abstract of the disclosure of the present application was objected to as containing some minor informalities. Applicants respectfully submit an amended Abstract of the present disclosure. It is submitted that the amended paragraph for the Abstract corrects the minor informalities and therefore is in compliance with U.S. patent practice.

The Brief Description of the Drawings was objected to as containing some minor informalities. Applicants submit that the disclosure has been amended to overcome the minor informalities therein, and therefore respectfully the objection to be withdrawn.

Formal Matters Concerning the Claims

Claim 11 was objected to for containing a minor grammatical error therein. Claim 11 has been amended in response to the objection so as to correct the grammatical error therein. Applicants respectfully request withdrawal of the objection.

Claims 2, 3 and 6 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The claims has been amended in response to the rejection. Applicants respectfully request withdrawal of the rejection.

Claims 1-11 Recite Patentable Subject Matter

Claims 1-4 and 7-9 were rejected under 35 U.S.C. § 102(b) as being anticipated by Abraham et al. (U.S. Patent No. 5,048,085, "Abraham"). In addition, claims 1 and 5-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ganesan (U.S. Patent No. 5,737,419, "Ganesan"). Applicants respectfully traverse these rejections.

Claim 1 recites an encryption control apparatus having a CPU for running a program, a ROM for storing the program run by the CPU, a RAM used as a work area while the CPU is running the program, an I/O section for sending/receiving data to/from an external device, and an encryption section for decrypting encrypted data and encrypting plain text data. Each of the foregoing components is formed on a single semiconductor device.

Accordingly, at least one of the essential features of the present invention is an encryption control apparatus having a CPU, a ROM, a RAM, an I/O section and an encryption section all formed on a single semiconductor device. As such, the present invention results in the advantage of preventing illegal leakage of data or unauthorized tampering of data.

It is respectfully submitted that the prior art fails to disclose or suggest the elements of the Applicants' invention as set forth in claims 1-11, and therefore fails to provide the advantages that are provided by the present application.

As characterized by the Office Action, Abraham discloses "a microprocessor (element 71), ROM (element 75), RAM (element 73), I/O gates (element 87), and an encryption processor (element 85), all on a single semiconductor device (See Abraham Fig. 3)." Furthermore, the Office Action characterizes Ganesan as disclosing "a processor (Element 700), ROM (Element 722), RAM (Element 720), I/O (Element 726, 728, 729, 730, 740 and 760) (See Ganesan Fig. 6). Ganesan also disclose[s] encrypting and decrypting messages (See Ganesan Abstract)."

To put simply, neither Abraham nor Ganesan fail to disclose at least the limitation of "wherein each of the foregoing components is formed on a single semiconductor device" as recited in claim 1 of the present application.

With respect to Abraham, the Examiner pointed out that Fig. 3 of Abraham allegedly shows this feature. However, Fig. 3 of Abraham is a block diagram merely showing the entire system including an IC card, rather than showing "each of the foregoing components is formed on a single semiconductor device" as recited in the claims. In addition, the description related to Fig. 3 merely explains a configuration in which a workstation 25 incorporates therein a cryptographic adapter card 29, and not an encryption control apparatus having components formed on a single semiconductor device.

Furthermore, Applicants submit that the cryptographic adapter card 29 of Abraham is neither comparable nor analogous to "encryption control apparatus" as recited in claim 1 of the present invention. Although the Office Action characterizes the cryptographic adapter card 29 of Abraham as containing elements 71, 75, 73, 87 and 85 as shown in Fig. 4 of Abraham, it is submitted that Fig. 4 of Abraham is a diagram showing the circuits of the cryptographic adapter card 29, and not an encryption control apparatus having components formed on a single semiconductor device as recited in claim 1 of the present application.

As for Ganesan, the Examiner failed to even mention which part of Ganesan corresponds to the feature as recited in the last paragraph of claim 1, i.e., "wherein each of the foregoing components is formed on a single semiconductor device".

To qualify as prior art under 35 U.S.C. §102, a single prior art reference must teach, i.e., identically describe, each and every feature recited in a claim. As explained above, neither Abraham nor Ganesan disclose or suggest each and every feature of pending Claim 1. Accordingly, Applicants respectfully submit pending Claim 1 is not anticipated by nor rendered obvious by the disclosure of Abraham or Ganesan. Therefore, Applicants respectfully submit pending Claim 1 should be deemed allowable.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Furthermore, Applicants respectfully note that each of Claims 2-9 depends from Claim 1. Therefore, it is respectfully submitted that Claims 2-9 should be deemed allowable for at least the same reasons Claim 1 is allowable, as well as for the additional subject matter recited therein.

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Abraham, and further in view of Kashkashian, Jr. (U.S. Patent No. 4,700,055, "Kashkashian"). In addition, Claims 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Abraham, and further in view of Double et al. (U.S. Patent No. 5,027,397, "Double"). Applicants respectfully traverse these rejections.

Abraham is discussed above. Kashkashian is applied for allegedly teaching that the authentication section sends/receives the data to/from the external information processing device through a modem. Kashkashian does not overcome the foregoing-described drawback of Abraham as Kashkashian fails to teach or suggest at least the limitation of "wherein each of the foregoing components is formed on a single semiconductor device."

Double is applied for allegedly teaching data destroying means, which upon receipt of abnormality detection, destroys a key stored in the RAM. Double also does not overcome the foregoing-described drawback of Abraham as Double also fails to teach or suggest at least the limitation of "wherein each of the foregoing components is formed on a single semiconductor device."

To establish *prima facie* obviousness, each feature of a rejected claim must be taught or suggested by the applied art of record. See M.P.E.P. §2143.03 and In re Royka, 490 F.2d 981 (CCPA 1974). As explained above, the combination of Abraham and Kashkashian or the combination of Abraham and Double, do not teach or suggest each feature recited in Claims 10 and 11, respectively. Accordingly, for the above provided reasons, Applicants respectfully submit that pending Claims 10 and 11 are not

rendered obvious under 35 U.S.C. § 103 by Abraham and Kashkashian or by Abraham and Double. Furthermore, Applicants respectfully note Claims 10 and 11 depend from Claim 1. Therefore, it is respectfully submitted that Claims 10 and 11 should be deemed allowable for at least the same reasons Claim 1 is allowable, as well as for the additional subject matter recited therein.

Applicants respectfully request withdrawal of the rejection.

Conclusion

In view of the above, Applicants respectfully submit that each of claims 1-11 recites subject matter that is neither disclosed nor suggested in the cited prior art. Applicants also submit that the subject matter is more than sufficient to render the claims non-obvious to a person of ordinary skill in the art, and therefore respectfully request that claims 1-11 be found allowable and that this application be passed to issue.

If for any reason, the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper has not been timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300 referencing Attorney Docket No. 108392-00000.

Respectfully submitted,



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Enclosure: Petition for Extension of Time (1 month)